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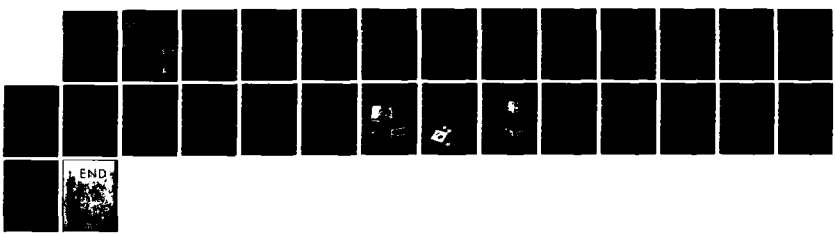

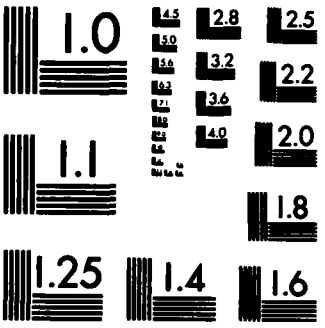


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REPORT TDI-TR-82-8

# A TRAINING EFFECTIVENESS ANALYSIS OF STANDARD TRAINING TECHNIQUES VERSUS A TYPING TRAINER

FINAL REPORT

BY

George J. Fry, Jr, Ed.D

1 SEPTEMBER 1982

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Approved for Public Release:
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PREPARED FOR: *US Army Training and Doctrine Command*
*Fort Monroe, Virginia 23651*

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## NOTICES

This report has been reviewed and is approved.

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| REPORT DOCUMENTATION PAGE | | READ INSTRUCTIONS BEFORE COMPLETING FORM |
|---|---|---|
| 1. REPORT NUMBER<br>TDI-TR-82-8 | 2. GOVT ACCESSION NO.<br>AD-A130244 | 3. RECIPIENT'S CATALOG NUMBER |
| 4. TITLE (and Subtitle)<br>A Training Effectiveness Analysis of Standard Training Techniques Versus A Typing Trainer (ALL OF TITLE IN CAPS) | | 5. TYPE OF REPORT & PERIOD COVERED<br>Final Evaluation Report<br>May 81 - Jun 82<br>6. PERFORMING ORG. REPORT NUMBER<br>TDI-TR-82-8 |
| 7. AUTHOR(s)<br>George J. Fry, Jr. | | 8. CONTRACT OR GRANT NUMBER(s) |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Commander<br>US Army Signal Center & School<br>ATTN: ATZH-ET Ft Gordon, GA 30905 | | 10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>Director<br>Training Developments Institute<br>ATTN: ATTG-DID Ft Monroe, VA 23651 | | 12. REPORT DATE<br>1 Sep 82<br>13. NUMBER OF PAGES<br>28 |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)<br>Commander<br>US Army Signal Center & School<br>ATTN: ATZH-ET<br>Fort Gordon, GA 30905 | | 15. SECURITY CLASS. (of this report)<br>Unclassified<br>15a. DECLASSIFICATION/DOWNGRADING SCHEDULE |
| 16. DISTRIBUTION STATEMENT (of this Report)<br>Approved for Public Release. Distribution Unlimited | | |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) | | |
| 18. SUPPLEMENTARY NOTES | | |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)<br>Training, Training effectiveness, Training efficiency, MOS 72E, MOS 72G, Typing, UGC-74, Pretest, Post-test, Typing trainer | | |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>In 81, work was begun to provide an evaluation of training effectiveness analysis of standard typing techniques versus a typing trainer at the US Army Signal Center, Ft Gordon, GA and the 35th Signal Brigade (CORPS) (Airborne) Fort Bragg, NC. The evaluation concentrates on: (1) comparing the teletype-writer skill performance of students trained by the conventional classroom approach with that of students trained in a typing trainer and (2) measure of students' attitudes toward the use of a typing trainer because of its self-paced programing and immediate feedback capability. | | |

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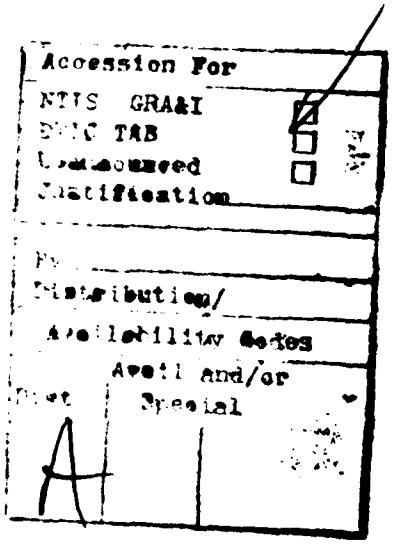
Results from this study were that the typing training device did train better than the conventional approach and that the students in the study liked and recommended this type of equipment. However, maintenance problems were the reason the typing training equipment was not implemented in the course area. A device similar to this, without the maintenance problems, would be recommended for use in the teaching of teletypewriter skills.



# A TRAINING EFFECTIVENESS ANALYSIS OF STANDARD TRAINING TECHNIQUES AND THE TAUT 2000 TYPING TRAINER

by

George J. Fry, Jr., Ed. D.

US Army Signal Center & Ft. Gordon

Ft. Gordon, Georgia

# A TRAINING EFFECTIVENESS ANALYSIS OF STANDARD TRAINING TECHNIQUES AND THE TAUT 2000 TYPING TRAINER

## EXECUTIVE SUMMARY

PART I - Implementation of Training Effectiveness Analysis at the Signal Center, Fort Gordon.

Requirement:

The purpose of this study was to evaluate the effectiveness of the Training Associates Universal Trainer (TAUT) Model 2000 in comparison to conventional methods in teaching the typing skills required of teletypewriter operators at Fort Gordon, Georgia. This study was requested by the Assistant Commandant at Fort Gordon.

The study also allowed an investigation into any possible training problems associated with a new item of equipment, the UGC-74 teletypewriter, which will replace the present AN/FGC-20 set and other teletypewriters throughout the Army. At the time of this study, the TAUT 2000 was the only training device that had the capabilities to simulate the UGC-74 keyboard.

Procedure:

To begin this evaluation a typing proficiency pre-test was administered to all students in the control group and the experimental group. For 2½ days the experimental group used the TAUT 2000 for typing training, while the control group used the conventional typing method.

An additional evaluation instrument of this study was the student opinion form which was administered to gain information on students' feelings and experiences on the TAUT 2000.

The target population for this study included 72E/G soldiers, both male and female, ranging in age from 18 to 20. The average reading level of the students was 7th grade and a majority of the students had some typewriting experience. Control and experimental groups, each with a target size of 12 students, were selected randomly from 14 classes. Because of experience gained from the first three classes, students in classes 4 through 14 were first administered a typewriting test, and from these results were classified as typists or non-typists. Those classified as non-typists were used in both the control and experimental groups from that point on.

The TAUT 2000 equipment was leased from Training Associates, Incorporated, and the Training Developments Institute provided funding for the study. The preliminary efforts were completed by April 1981, and the first class began on 27 April 1981 with the administration of a diagnostic

typing test (TAUT lesson #10). After 2½ days of training, this same test was administered as a diagnostic posttest. During the next twenty-one weeks this testing and training procedure was used for the remaining thirteen classes, with the diagnostic test for the final class being administered on 20 September 1981. This brought the total number of students tested in the experimental group to 113 and the total number of students tested in the control group to 125.

Findings:

Using the null hypothesis that there would be no statistically significant difference in the test scores of the control and experimental groups, the posttest scores on the 5-minute timed test indicated that there was a statistically significant difference in favor of the TAUT 2000 group at the .0001 level of significance. The results on the student opinion form indicated that the students enjoyed using the TAUT 2000 and would recommend its continued use in teletypewriter courses. However, results from this study also showed that a major problem with the TAUT 2000 resulted from machine malfunctions. This raised questions about its continued use in the 72E/G courses and other courses in the future.

Conclusions:

The use of the Training Associates Universal Trainer (TAUT) 2000 represents a continuing effort to explore applications of new technology to meet the needs of Signal training. Although the TAUT 2000 required a great deal of maintenance, primarily attributed to the Beseler Cue-See, results showed that the equipment did train better than the conventional approach and that the students in the study liked and recommended this type of training equipment. These maintenance problems, however, were the reason that the TAUT 2000 equipment was not recommended as a training device to teach teletypewriter skills in the 72E/G courses. A device similar to this, without the maintenance problems, would be recommended for use in the teaching of teletypewriter skills.

PART II - Implementation of Training Associates Universal Trainer (TAUT) Model 2000 System at 35th Signal Brigade (CORPS) (Airborne), Fort Bragg, NC.

A similar study to the one conducted at Fort Gordon was initiated by the 35th Signal Brigade at Fort Bragg. Guidance was provided in April and May 1981 by personnel from the office of the Deputy Assistant Commandant for Educational Technology at Fort Gordon and representatives from Training Developments Institute. Data collection began during the first week of June 1981. Because of a large turnover in personnel and an increased number of field commitments over the following weeks, problems occurred in the conduct of the study. These problems produced data that was unusable in a formal training effectiveness analysis. However, an interim report was submitted on 21 July 1981 by the 35th Signal Brigade that did indicate some favorable results from the use of the TAUT 2000 System. Equipment maintenance difficulties, similar to those encountered during the Fort Gordon study, again were in evidence as a potential drawback to the use of the TAUT 2000.

In spite of these problems, information collected from the instructor and the student opinion forms was favorable enough that the Brigade requested that nine TAUT 2000 units be left at Fort Bragg for continued use in refresher/reinforcement training in the learning centers. This was accomplished on 12 February 1982.

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Part I - Implementation of Training Effectiveness Analysis at the Signal Center, Fort Gordon

## INTRODUCTION

BACKGROUND:

This training effectiveness analysis grew out of a study that was performed at Ft. Jackson, South Carolina, in the 71L Administrative Specialist Course. The Training Developments Institute initiated the study at Ft. Jackson to compare various typewriter training devices. The Signal Center has a number of courses that teach typing skills. These courses teach the operation of teletypewriter equipment so that the students will be able to perform in their specific military occupational specialities (MOS). Past investigations and evaluation information from the field indicated that personnel in the 72E Telecommunications Center Specialist Course had a definite need for improving efficiency in their typing skills. A number of graduates had exhibited less than desired or required levels of proficiency when they reported to initial duty stations after training.

The Assistant Commandant at Ft. Gordon, Georgia, expressed an interest in the study being conducted at Ft. Jackson, South Carolina, and requested that the office of the Deputy Assistant Commandant for Educational Technology (DACET) initiate a similar study at Ft. Gordon using the Training Associates Universal Trainer (TAUT) Model 2000 for teaching the typing skills required of teletypewriter operators. (Information on the TAUT 2000 system can be found at Appendix A.)

This training effectiveness analysis study also permitted an investigation into the problems associated with teaching a totally new teletypewriter keyboard. The UGC-74 teletypewriter set is a new item of equipment that will replace the present AN/FGC-20 set and other teletypewriters throughout the Army. (A diagram of the UGC-74 keyboard and a conventional teletypewriter keyboard can be found at Appendix B.) At the time this study was performed, the TAUT 2000 Trainer was the only training device that simulated the UGC-74 keyboard. Information gained from this study will help to evaluate more cost-effective approaches to teaching typing skills on the UGC-74 keyboard.

The TAUT 2000 trainer has a great number of features that make it very desirable for use in teaching typing skills. The TAUT 2000 trainer is a portable system which provides training in basic teletypewriting skills, as well as enhancing keyboard proficiency. The system uses a Beseler Cue-See for presenting visual information. The Cue-See used with the TAUT 2000 system is the same unit found throughout the Army (approximately 32,000 have been distributed Army-wide) with only a minor modification for use with the TAUT 2000 system. Other features that make the TAUT 2000 trainer particularly attractive are: the individualized instruction provided with the system, the immediate feedback provided to the students in both the testing and training modes, the ability of the system to report correct keystrokes and errors, and the reduction in classroom noise and in paperwork that should result from implementing the system.

All of these factors were behind the initiation of this training effectiveness analysis at the Signal Center. The Training Developments

Institute, Ft. Monroe, Virginia, provided support for this project and has consistently supported initiatives to investigate existing and emerging educational technology as it applies to training in the Army.

The second part of this report deals with an effort to evaluate the performance of the TAUT 2000 trainer "in the field." A need was expressed for reinforcement and refresher training of 05C Radioteletypewriter Operators and 72E Telecommunications Center Specialists in the 35th Signal Brigade at Ft. Bragg, North Carolina. Personnel in the brigade expressed an interest in working with the Signal Center and the Training Developments Institute in evaluating the use of the TAUT 2000 trainer in the unit. The results of this effort are presented in Part II of this report.

PURPOSE:

The purpose of this training effectiveness analysis was to evaluate and compare the teletypewriter skill performance of students trained by the conventional classroom approach with that of students trained on the Training Associates Universal Trainer (TAUT) Model 2000. An additional area of inquiry was to measure the students' attitudes toward the use of the TAUT system because of its self-paced programming and immediate feedback capability.

EVALUATION DESIGN:

In order to evaluate the typing proficiency of the students in the study the following design procedures were used:

1. A pretest ($T_1$) was administered to all students in the study to measure the mean typing speed and mean number of errors of both groups before exposure to the TAUT 2000 instructional method and the conventional typing training in the 72E course.
2. The experimental group was exposed to the TAUT 2000 training for the first 2½ days of typing training (a total of 18 class periods), and the control group was administered conventional typing training at the same time.
3. A posttest ($T_2$) was administered to both groups to measure the mean typing speed and mean number of errors after exposure to the TAUT training and to the conventional training.
4. A t-Test was used to compare the performance of the control and experimental groups on $T_1$ and $T_2$ to determine what differences, if any, existed in the two approaches to teletypewriter training.
5. The .05 level of significance was used to determine if there was a significant difference in the performance of the two groups. The null hypothesis for this study is: there is no statistically significant difference in the typing proficiency of the students trained by the two teaching approaches.

A student opinion form was administered to each student who used the TAUT 2000 system (results of the opinion form are found at Appendix C). This student opinion form was primarily used to gather information on the students' feelings toward using the system and the students' experiences while using the TAUT 2000 system.

## POPULATION DESCRIPTION AND TREATMENT

The target audience for this study was comprised of soldiers who were primarily in the 18 to 20 year-old range. Both male and female soldiers were involved in the study. The students' academic backgrounds varied from a 9th grade education to some college (1 year or less). Based on a test given during the time that the study was conducted, the average reading grade level of the students was estimated at the 7th grade level.

All the soldiers in the study held the 72E or 72G military occupational speciality, and they all attended basic and advanced training prior to entering the 72E/G MOS courses.* The typewriter keyboard skills that the soldiers possessed when they entered the study ranged from no experience at all to skilled journeyman level. However the majority of soldiers had some typewriting experience.

The experimental and control groups for this study were selected in the following manner:

1. The entire experiment included 14 classes; there were up to 60 students in each class.
2. For the first 3 classes, the first 24 names on the roster were selected, then 12 students were randomly assigned to the experimental group and 12 to the control group. The first 3 classes included experienced typists and non-typists. (Experience gained by the course personnel during these 3 weeks indicated that non-typists benefited most from the treatment with the TAUT system. The course personnel believed very strongly that the most benefit could be gained by dealing with non-typists for the rest of the study, and therefore, from week 4 through the completion of the study, personnel selected for both the experimental and the control groups were strictly non-typists.)
3. Beginning with the 4th class, the students were tested and categorized as typists and non-typists. Twelve non-typists were randomly assigned to the control group and 12 to the experimental group. This procedure was adopted for all of the remaining classes in the study.
4. After 18 class periods (2½ days) of typing training, both groups were posttested using the same test format in a 5-minute timed test. This test was the same as the one administered before the group began any training. (A copy of the test can be found at Appendix D.)
5. The student opinion form was administered after the experimental group completed the training on the TAUT 2000 trainer. Statistics were gathered on the performance of each of the students who participated in the study through the remainder of their training in the 72E/G courses to monitor the proficiency of all personnel and to insure that any short range gains or losses in training did not adversely affect the overall training achievement in the courses.

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* The teletypewriter training for both the 72E Telecommunications Center Specialist Course and the 72G Data Communications Switching Center Specialist Course is identical. Students from both courses are mixed together for the training. The 72E/G were split only recently and there are no differences in the MOS training during the early phases of the two courses.

## DISCUSSION

### CONDUCT OF THE STUDY:

The TAUT 2000 equipment was leased from Training Associates, Incorporated, of Alexandria, Virginia, for a period not to exceed 6 months. Funding for this study was provided by the Training Developments Institute. Prior to the actual conduct of the study some of the instructors in the 72E/G courses received training by the contractor to familiarize them with the equipment and the instructional programs.

All preliminary efforts leading to this study were completed by April 1981 with the first class beginning 27 April 1981. Starting dates for the classes were predicated upon inputs of soldiers entering the course. The number of students ranged from 14 (7 per group) to 24 (12 per group).

On the first day of typing training, during the 2nd class period, a diagnostic test (TAUT lesson #10) was administered to all students in both groups to determine entry-level typing skills. This pretest is a 5-minute timed test, and the total number of characters correct and total number of errors were determined for each student. On the third day of training, a diagnostic test (TAUT lesson #10) was administered to the TAUT group during the 4th class period and to the control group during the 6th class period to determine typing skills at that point. While the test was administered during different periods to each group, this does not represent a different treatment because each group had completed 18 periods of actual typing practice at the time they were administered the test. The final groups involved in the study completed training on 20 September 1981. The total number of students who completed the TAUT 2000 training during the study was 113 and the total number of students who completed the conventional training was 125.

### FINDINGS:

The null hypothesis for the study was that there would be no statistically significant difference in the test scores of the 72E/G students as trained by the two teaching procedures. As it turned out, there was a statistically significant difference between the TAUT group and the control group as can be seen in Table I.

TABLE 1

Summary t-Test Values

| | Control Group (N = 125) | | TAUT Group (N = 113) | | t. | p. |
|---|---|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. | | |
| Pretest Total correct | 114.06 | 67.21 | 115.13 | 58.59 | 0.13 | .896 |
| Pretest Errors | 20.87 | 27.48 | 24.31 | 18.88 | 1.13 | .258 |
| Posttest Total correct | 175.12 | 64.76 | 247.76 | 88.86 | 7.14 | .0001 |
| Posttest Errors | 14.81 | 16.73 | 16.41 | 12.89 | 0.82 | .410 |

The posttest scores for the 5-minute timed test indicate a statistically significant difference in favor of the TAUT group at the .0001 level of significance. The table also reveals that there are no significant differences in the pretest total correct score or total errors, nor in the posttest errors. The finding that favored the TAUT group was not anticipated. The results of the student opinion form showed that the students enjoyed using the TAUT trainer and would recommend the TAUT to others. However, other findings from the student opinion form and from data maintained by the instructors indicate that the machine malfunctions with the TAUT were a major problem that will place a question mark over its continued usage in the 72E/G courses and in further expansion of usage in other courses.

The student opinion forms (111 of 113 responded -- form and results attached at Appendix C) reveal that 79.28% of the students indicated they enjoyed using the machine very much. None of the students responded that they did not enjoy using the machine at all. A total of 90.99% of the students responded that they had never used a machine like the TAUT before for any reason (Question 10), and 96.4% indicated that they would recommend this machine for use in all typing classes (Question 11). These results, coupled with the finding reflected in Table 1, indicate that the TAUT did produce significantly better scores for students in the experimental group for the 2½ days of training at the beginning of the course, and the students enjoyed using the machine and felt that it had merit.

The student opinion form results also revealed that there were equipment and courseware problems that came up quite often in using the TAUT during the study. A breakout of the answers to question #5 ("Did the machine break down while you were using it?") reveals that there were a considerable number of problems. Some students were puzzled by this question because, while their machines did not break down, the Super-8 film cartridges that carried the courseware jammed repeatedly. The malfunctions that came up during the course of the study included equipment problems with

the Beseler Cue-See. Some of the problems were able to be corrected by the instructors in the course, while others required much more extensive repairs. The instructors tried to repair the Super-8 film cartridges when they were able to, but often they had to send them back to the company and deadline the unit until additional course material was available. After a representative of the equipment manufacturer visited Ft. Gordon and aligned all of the equipment, the equipment problems were cut back considerably. However, there were still too many problems to earn an endorsement of the TAUT 2000 as a machine that works well in a training environment without considerable intervention and repair by the instructors and technicians. During this training effectiveness analysis, no data was collected on downtime and maintenance problems associated with the actual teletypewriter equipment used with the control group. It was not within the scope of this study to compare maintenance problems between the two training environments. The focus during the study was on the TAUT 2000 system and its ability to perform as a fully functional trainer.

Some of the specific problems with the TAUT 2000 system that came out during the study were: the inability of the TAUT to keep pace with the speed of the more experienced typists, the poor image quality on the screen and difficulty keeping the image focused, heat problems and bulb problems with some of the Beseler Cue-See units, and mirror alignment problems with many of the Cue-See units. It is a bit surprising that with all the problems that arose, the experimental group did better than the control group and recommended the machine for use in all typing classes (96.4% said yes).

There were some additional findings that were not of primary concern for the conduct of this training effectiveness analysis, but they provided some important information to personnel in the 72E/G course for developing training in the future. The training efforts with the UGC-74 keyboard on the TAUT 2000 trainer were the first that used this dramatically different keyboard for teaching typing training. (See Appendix B) There had been some concern by those who were particularly interested in human engineering that students moving from one type of teletypewriter keyboard to another would experience a considerable loss of proficiency and require a great deal of time to regain typing speed and accuracy. As the students that worked on the TAUT 2000 transitioned to the conventional keyboards, there was no measurable loss in proficiency. It cannot be stated that the converse would be true with students moving from conventional keyboards to the UCG-74 because this was not touched upon during the study. The performance of all the students was monitored through the completion of the course and two basic findings resulted: First, data collected during the 6 weeks of typing training that followed the test showed the TAUT 2000 group and the control group had no significant difference in typing proficiency as they moved through the training. Therefore, there was no detrimental effect upon the experimental group from their involvement with the TAUT 2000 trainer. Second, the increased level of proficiency shown by the TAUT group was not capitalized upon after the first three days of training. The TAUT 2000 students were placed in conventional training and this group-paced form of instruction tended to bring them in line with the students in the control group. If more comprehensive courseware were available for the TAUT 2000, more extensive use of the machine could have been made in the course. At the time the study was conducted, there was no specific training on

'format', which is involved in the greater majority of typing training provided for those learning teletypewriter skills.

## CONCLUSIONS

The use of the Training Associates Universal Trainer (TAUT) 2000 to teach teletypewriter skills in the 72E/G courses represents an important movement toward the utilization of new technology to meet real training needs in the courses here at the Signal Center and throughout the Army. This particular training effectiveness analysis provided results that showed that the equipment did, in fact, train better than the existing approach, and the students liked the equipment and would recommend its use in all typing training.

The TAUT 2000 system required a great deal of maintenance, primarily due to the Beseler Cue-See alignments and the film cartridges. Even though the trainee learned more on the TAUT 2000 and liked using the TAUT 2000, the maintenance problems prohibited it from being recommended as a training device to teach teletypewriter skills in the 72E/G courses. However, a training device similar to the TAUT 2000, without the maintenance problems, would be recommended for use in teaching teletypewriter skills.

Part II - Implementation of Training Associates Universal Trainer (TAUT) Model 2000 System at 35th Signal Brigade (CORPS) (Airborne), Ft. Bragg, NC

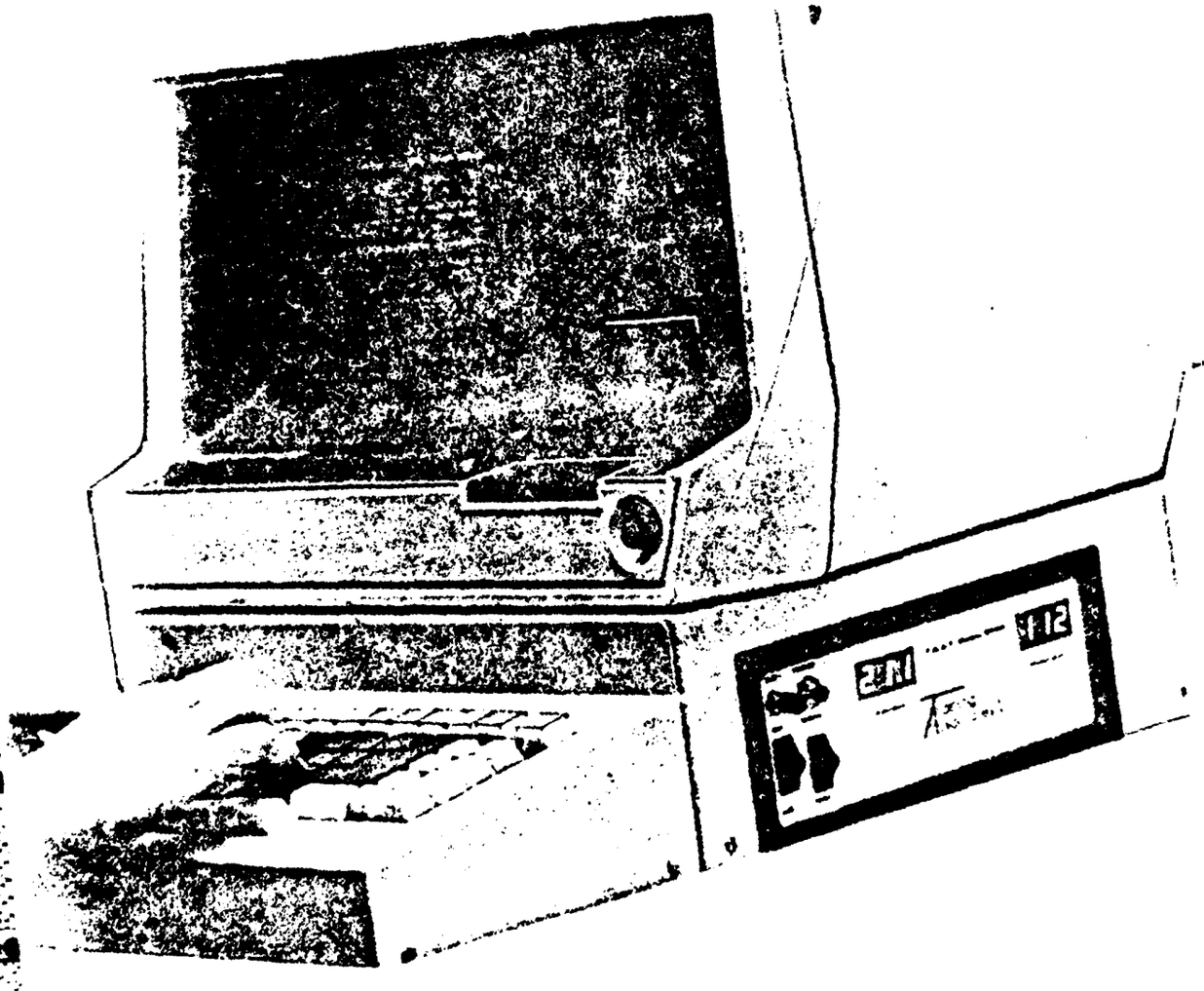
The training effectiveness analysis was in the planning stages at the Signal Center at Fort Gordon in the Spring of 1981 and information about the study was circulating around the signal community. After some initial contacts and inquiries, an interest was expressed by the 35th Signal Brigade at Ft. Bragg in trying out the TAUT 2000 systems for reinforcement/refresher training for both teletypewriter and typewriter skills. An evaluation report by a training evaluation team from Ft. Gordon that visited Ft. Bragg in early 1981 indicated that there were some problems with teletypewriter proficiency for 72E personnel. The 35th Signal Brigade's interest in the TAUT 2000 surfaced at the same time that the Signal Center and the Training Developments Institute were looking into reinforcement/refresher training. The interests of all parties led to a commitment to do a training effectiveness analysis of the Training Associates Universal Trainer (TAUT) Model 2000 for teaching teletypewriter/typewriter skills to personnel in the 35th Signal Brigade at Ft. Bragg.

After a number of meetings in April and May 1981, the details of a training effectiveness analysis were worked out between personnel in the 35th Signal Brigade, representatives from Training Developments Institute and personnel from the office of the Deputy Assistant Commandant for Educational Technology at the Signal Center. Sixteen TAUT 2000 systems were delivered the first week of June 1981 to the 35th Signal Brigade . The 16 units included 11 conventional typewriter keyboards and 5 three-row teletypewriter keyboards. The Brigade personnel decided that they wanted to train their 71L administrative personnel along with 72E and 05C/B personnel using the TAUT 2000 systems (05B/C-Radioteletypewriter Operators). The original agreement included provisions for a study with control and experimental groups. All of the necessary forms -- data collection sheets, student opinion forms, etc. -- needed to conduct a study were given to the personnel at Ft. Bragg. However, when the study began during the first week in June 1981, a considerable turnover of personnel and a tremendous number of commitments to field exercises led to a change in the original plans.

An interim report was submitted on 21 July 1981 by the 35th Signal Brigade to the Training Developments Institute (a copy of the report is at Appendix E). The interim report reflected some favorable results from the use of the system, but also indicated that there were some problems similar to those that surfaced at the Signal Center with equipment maintenance and the breaking of the Super-8 film cartridges. The TAUT 2000 equipment continued to be used by the 35th Signal Brigade for the remainder of calendar year 1981. Record keeping problems resulted from the turnover of personnel and the fragmentation of the training effort. The problems produced data that was unusable in a formal training effectiveness analysis.

The results of the instructor and the student opinion forms and the experiences of the 35th Signal Brigade personnel were positive enough that the Brigade requested 9 TAUT 2000 units be left at Ft. Bragg for continued use in refresher/reinforcement training. The TAUT 2000 systems that the 35th Signal Brigade requested included: 2 standard typewriter keyboards, 5 three-row teletypewriter keyboards, and 2 UGC-74 teletypewriter keyboards. The changeover of the keyboards and the final transfer of the TAUT 2000 systems at Ft. Bragg were completed on 12 February 1982. The 9 TAUT 2000 systems will stay at Ft. Bragg and will continue to be used in the learning centers for refresher and reinforcement training.

# THE T.A.U.T. MODEL 2000



**is what you make it .....**

APPENDIX A

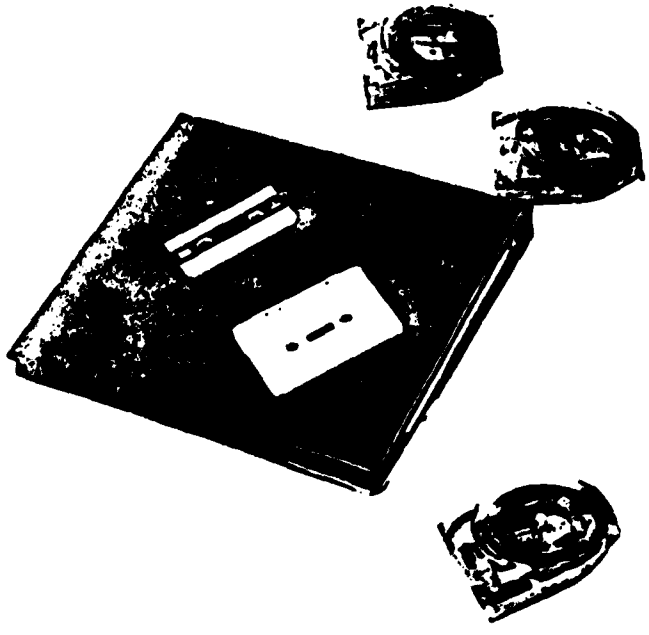
## THE TRAINING ASSOCIATES UNIVERSAL TRAINER

is a unique instructional tool that can provide the keyboarding skills essential to operating input terminals. Whether the keyboard goes with a word processor, teletypewriter, computer terminal, cash register, sortation console or just a typewriter, the productivity gained from higher skilled performance shows up as increased profit every time.

In less time (30-50% less), your employees can acquire all the essentials necessary to perform keyboarding skills efficiently and accurately.

The T.A.U.T. unit is a simulator/trainer that is flexible, reliable, interactive and accountable.

In industry today, there are computer and word processing systems that have the potential to save businessmen millions. However, regardless of the sophistication, the efficiency of the system depends on the skill of the operator to interface with a keyboard by using specific formatting and operating procedures skillfully. The T.A.U.T. Model 2000 series is a training vehicle that utilizes your unique materials to simulate the actual job environment. Practice with forms, coupons, notes, letters or other work texts comprise the program lessons. The trainee receives instructions from the audio/visual projector. Response is made through the keyboard. Correct response advances the program. Incorrect response causes the correct key to light on the keyboard, giving instantaneous and positive feedback. In the test mode, all responses advance the program, while the digital counters provide a record of performance. This method of response conditioning exercises the trainee through simulation without tying up the more expensive computerized or automated word processing equipment.



## STANDARD AVAILABLE PROGRAM LESSONS

- Typing — English and French
- Teletypewriting—English and French

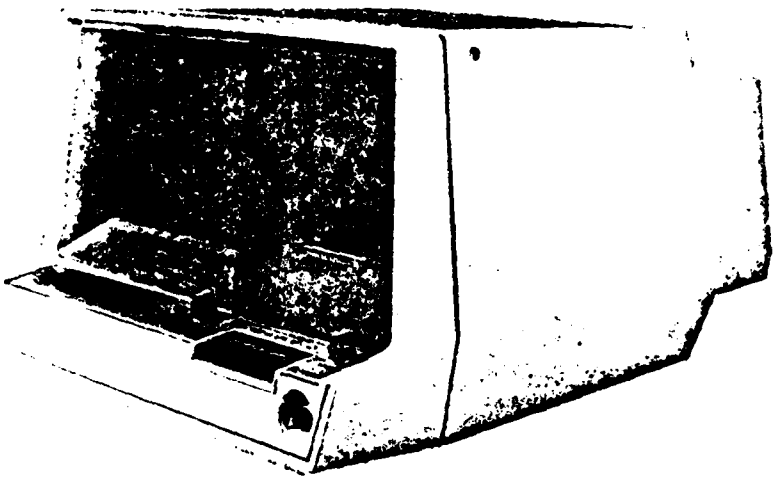
**NOTE:** Lesson programs beyond the basic keyboard learning are tailored to suit each individual customer's need. These may incorporate application forms, special documents, coupons, receipts, etc. This material is formulated on film to replicate the job applications. The simplicity of the medium allows you to easily prepare your own programs.

The visual portion of a program is contained in a standard Super 8 mm technicolor cartridge that holds a 50-foot (3600 frames) roll of Super 8 mm film. This compact format film loop cartridge is economical, while providing high quality color programs.

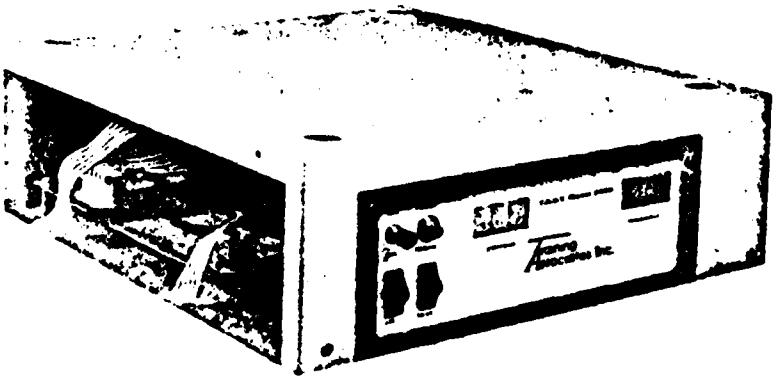
Where sound is used, a standard tape cassette (C-30, C-60 or C-90) can provide the narration or voice track that accompanies the film lesson program.

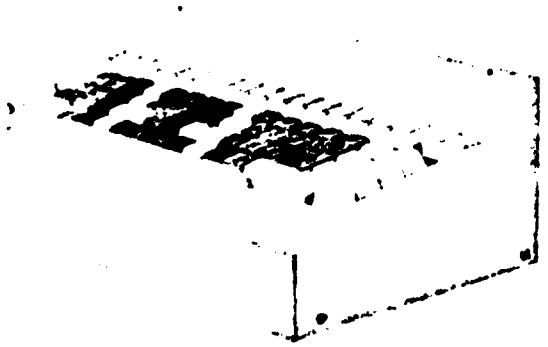
## A FLEXIBLE DELIVERY SYSTEM THAT COMBINES:

- An audio/visual projector that can introduce your training materials one frame at a time, in regular motion or in slow motion, whatever the need demands. The variations are limited only by your imagination. Programming is easy and economical.

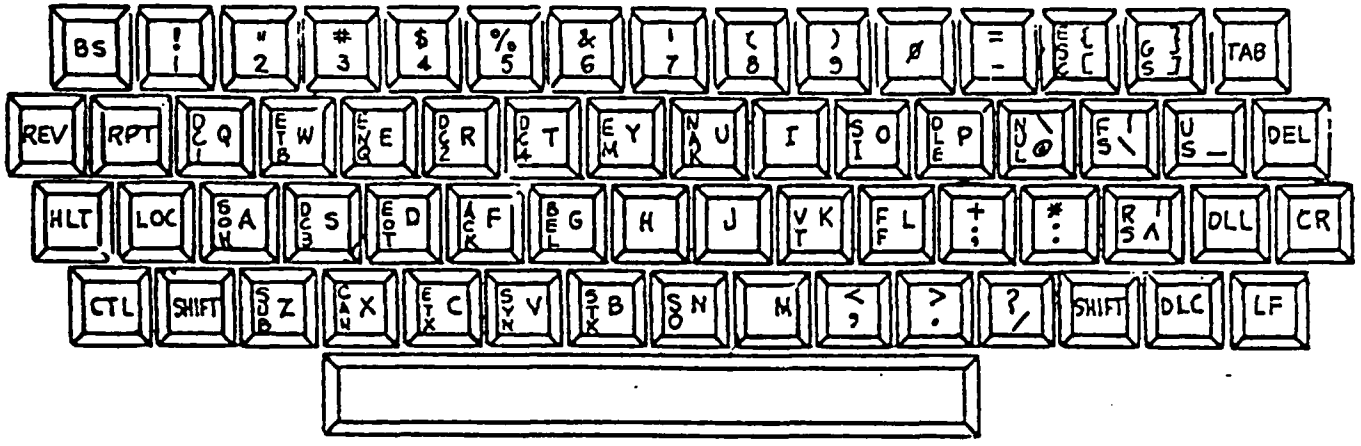


- A solid-state electronic console that provides continuous scoring of trainee performance, recognition of response for immediate feedback, and separate operating modes for learning and testing. The digital counters display correct and incorrect responses as they are made.



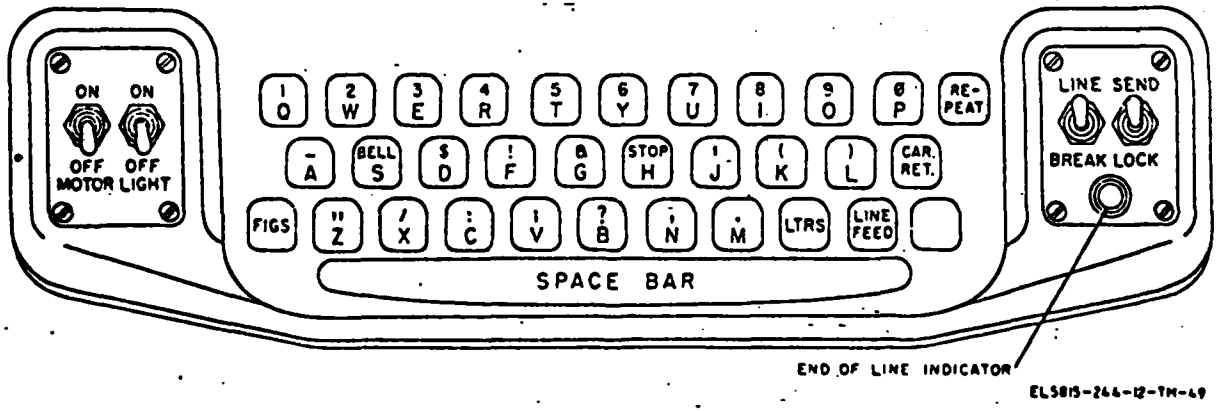


- An interactive keyboard of your choice. Keyboards are readily interchangeable so that one system can provide keyboarding skills training for a wide variety of different applications. The keyboard can be a cash or point-of-sale register, a teletype-




UGC-74 TERMINAL KEYBOARD






CONVENTIONAL KEYBOARD

FORM A : STUDENT OPINION FORM

1. Were the physical arrangements comfortable?
   ____Good ____All Right____ Poor ____ Uncomfortable
   Explain _____

2. Did you enjoy using the machine?
   ____Very Much ____Somewhat ____Little ____Not At All
   Why, or why not? _____

3. Were the directions given by the machine easy to understand?
   ____Very Easy ____All Right ____Difficult ____Impossible
   Explain the good or bad features _____

4. Did you have trouble moving from the machine to the manual typewriter?
   ____No Trouble ____Some ____Much ____Couldn't Do It
   Explain _____

5. Did the machine break down while you were using it?
   ____Never ____Sometimes ____Often____Most of the Time
   What went wrong, if anything? _____

6. Did the viewing screen bother your eyes?
   ____Never ____Sometimes ____Often ____Always
   Explain _____

7. Did you receive help from the Instructor?
   ____Much ____Some ____Little ____None
   What was helpful? _____

8. Did you need more help than you received?
   ____Much ____Some ____Little ____None
   Explain _____

9. Did your outside duties interfere with class?
   ____Much ____Some ____Little ____None
   Five examples _____

10. Have you ever used a machine like this before, for any reason? ____YES____NO
    Explain _____

11. Would you recommend this machine for use in all typing classes? ____YES____NO
    Why, or why not? _____

12. Explain in your own words: what are the good and bad points of this method of teaching typing? How could it be improved? _____

Student Opinion Forms - Compiled Responses
111 Total Responses

1. Were the physical arrangements comfortable?

| | |
|---|---|
| Good: | 79 (71.2%) |
| All Right: | 24 (21.6%) |
| Poor: | 2 ( 1.8%) |
| Uncomfortable: | 6 ( 5.4%) |

2. Did you enjoy using the machine?

| | |
|---|---|
| Very Much: | 88 (79.3%) |
| Somewhat: | 18 (16.2%) |
| Little: | 5 ( 4.5%) |
| Not at all: | 0 |

3. Were the directions given by the machine easy to understand?

| | |
|---|---|
| Very Easy: | 97 (87.4%) |
| All Right: | 13 (11.7%) |
| Difficult: | 1 ( .9%) |
| Impossible: | 0 |

4. Did you have trouble moving from the machine to the manual typewriter?

| | |
|---|---|
| No Trouble: | 31 (27.9%) |
| Some: | 7 ( 6.3%) |
| Much: | 0 |
| Couldn't do it: | 2 ( 1.8%) |

[Blank -- not applicable to most: 71 (64.0%)]

5. Did the machine break down while you were using it?

| | |
|---|---|
| Never: | 45 (40.1%) |
| Sometimes: | 43 (38.7%) |
| Often: | 13 (11.7%) |
| Most of the time: | 4 ( 3.6%) |
| [Blank: | 6 ( 5.4%)*] |

6. Did the viewing screen bother your eyes?

| | |
|---|---|
| Never: | 49 (44.1%) |
| Sometimes: | 52 (46.9%) |
| Often: | 7 ( 6.3%) |
| Always: | 3 ( 2.7%) |

7. Did you receive help from the Instructor?

| | |
|---|---|
| Much: | 60 (54.0%) |
| Some: | 33 (29.7%) |
| Little: | 11 ( 9.9%) |
| None: | 6 ( 5.4%) |
| [Blank: | 1 ( 1.8%)] |

8. Did you need more help than you received?

| | | |
|---|---|---|
| Much: | 2 | ( 1.8%) |
| Some: | 9 | ( 8.1%) |
| Little: | 14 | (12.6%) |
| None: | 85 | (76.6%) |
| [Blank: | 1 | ( .9%)] |

9. Did your outside duties interfere with class?

| | | |
|---|---|---|
| Much: | 6 | ( 5.4%) |
| Some: | 6 | ( 5.4%) |
| Little: | 12 | (10.8%) |
| None: | 86 | (77.5%) |
| [Blank: | 1 | ( .9%)] |

10. Have you ever used a machine like this before, for any reason?

| | | |
|---|---|---|
| Yes: | 10 | ( 9.0%) |
| No: | 101 | (91.0%) |

11. Would you recommend this machine for use in all typing classes?

| | | |
|---|---|---|
| Yes: | 107 | (96.4%) |
| No: | 2 | ( 1.8%) |
| Maybe: | 2 | ( 1.8%) |

12. Explain in your own words: What are the good and bad points of this method of teaching typing? How could it be improved? (Open-ended question)

* 31 of the 111 respondents explained that the tapes or the film caused a problem.

42 of 45 who answered Never did not explain further. One said "the tape would mess up but the machine didn't." One said the film would come down or go up.

20 of 43 who answered Sometimes mentioned the tapes as being the problem. 12 of 43 who answered Sometimes did not explain. The remainder were a variety of responses (i.e., machine too hot, don't know, etc.)

5 of the 13 Oftens were tape related; 3 gave no explanation; the rest were varied.

2 of the 4 who answered Most of the time said the tapes/films were bad.

3 of the 6 who left the choices blank mentioned that the problems were tape related.

(Tape/film refers to the Super-8 film cartridges used with the TAUT 2000 system to deliver instruction.)

DIAGNOSTIC EXAM

1240 NIGHTS 4636 WEEKS 5760 TENTS 6015 LETTERS

3216 SONGS 5690 HOURS 1506 SAINTS 4567 STROKES

6756 KETTLES 9090 GUNS 6756 TANKS 4327 CARTONS

684 987 341 682 937 462 821 906 902

846 879 134 826 379 624 531 555 657

684 987 341 682 937 462 821 906 902

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 35TH SIGNAL BRIGADE(CORPS)(AIRBORNE)
FORT BRAGG, NORTH CAROLINA 28307

AFZA-AS-OT 21 July 1981

SUBJECT: T.A.U.T. 2000 Interim Report

Director
Training and Development Institute
Instructional Development Division
ATTN: ATTG-DID (Mr. Giunti)
Fort Monroe Va. 23651

1. Reference: Phone call between MAJ Marty this headquarters and Mrs Weirich 15 July 1981.

2. As requested in reference phone conversation the following T.A.U.T. 2000 interim report information is provided.

a. As of 15 July, 24 72E personnel have completed the training.

b. Preliminary test results have shown there is a 25-35 percent increase in test scores after completion of the training.

c. The systems have been found to be beneficial to improving the typing skills of 72E/05B/05C personnel. A much greater training benefit could be gained if the speed of the machines were set at 60-80 WPM.

d. Due to field exercise commitments the number of personnel completing the instruction thus far is fewer than planned. Therefore, we do not anticipate all 72E/05B/05C personnel to have time for course completion prior to the test period conclusion.

3. It is desired to continue using the T.A.U.T. 2000 trainers after the test period is completed. If the machines already on hand can be purchased for a reasonable price, recommend that action be taken. This command has an ongoing 72E/05B/05C training program and the use of the T.A.U.T. 2000 trainer has been integrated into the program with successful results. If additional machines can be acquired this command has a requirement to continously use the following trainers:

| | |
|---|---|
| 71L Trainer | 2 |
| 72E/05C/05B Trainer | 11 |

END

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